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**IMPROVING THE EFFICIENCY
OF PUBLIC SECTOR HEALTH
SERVICES IN DEVELOPING
COUNTRIES:
BUREAUCRATIC VERSUS
MARKET APPROACHES**

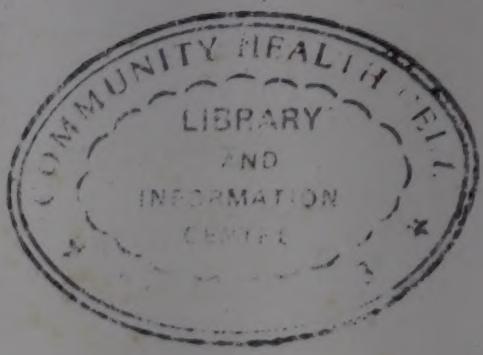
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**IMPROVING THE EFFICIENCY OF PUBLIC SECTOR
HEALTH SERVICES IN DEVELOPING COUNTRIES:
BUREAUCRATIC VERSUS MARKET APPROACHES**

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IMPROVING THE EFFICIENCY OF PUBLIC SECTOR HEALTH SERVICES IN DEVELOPING COUNTRIES: BUREAUCRATIC VERSUS MARKET APPROACHES

1. Introduction

There is widespread concern over the efficiency of public sector health services in developing countries. To some the main problem is allocative efficiency: the distribution of resources between different health interventions and the over-provision of less cost-effective interventions. To others the main problem is technical efficiency: for example the widespread waste of resources because of poor purchasing and distribution systems and overstaffing. The purpose of this paper is to raise the question of the best means of remedying the widely acknowledged inefficiencies of the public health systems in developing countries, and in particular to ask whether improvement is best pursued by a continuation and reinforcing of attempts to improve government policy-making, planning and management structures relating to public provision, or whether there is value in market-oriented reforms that retain public financing but encourage competition between providers. The latter option draws on current reforms in developed countries, particularly in Western Europe, which seek to create quasi-markets/provider markets in health care in order to harness the benefits to be expected from competition (Le Grand and Bartlett 1993). These reforms are being reflected in some of the recent thinking of agencies such as the World Bank and ODA¹.

This paper takes for granted the desirability of substantial public finance, and does not debate this². It rather asks the question, given the substantial public finance that exists for health care in many developing countries, of whether this is most efficiently employed in financing a public health bureaucracy, or whether there are arguments in favour of a pro-competition strategy. The main concern of the paper is with how to improve efficiency, though equity concerns are not completely

¹A recent internal donor document stated that 'The European donors appear to be thinking concretely about whether the (health) reforms being developed in their own countries are relevant to, or could be adapted to support the reform agendas of their partners in developing countries'. The World Development Report 1993 states that 'In most circumstances...the primary objective of public policy should be to promote competition among providers - including between the public and private sectors (when there are public providers)...Competition should increase consumer choice and satisfaction and drive down costs by increasing efficiency. Government supply in a competitive setting may improve quality or control costs, but non-competitive public provision of health services is likely to be inefficient or of low quality'(World Bank 1993a).

²The virtues of public finance are hotly disputed. Birdsall and James (1993), for example, argue that tax finance (and public provision) should be retained exclusively for public and quasi-public goods targeted at lower-income groups; the bulk of health care would be funded by mandatory insurance, subsidised if necessary for low income groups, and with care provided by the private sector. Others (eg World Bank 1993a) note some of the efficiency and equity problems of this approach.

ignored. In terms of efficiency, the concern is as much with how to use existing resources to greater effect as with simple cost savings³.

2. The size of the problem

Before addressing the question of the inefficiency of health provision, it is important to consider the objectives that governments seek to achieve in the health sector since these should influence the means they adopt (Culyer 1992; Williams 1993). Two distinct ethical principles can be distinguished. In the first, access to health care is considered a right of citizenship which should not depend on individual income or wealth, and emphasis is placed on reducing health inequalities. In the second, access to health care is considered to be essentially similar to access to other good things of life which are acquired through work or inheritance, and less emphasis is placed on the government's role in improving equity. The first view is broadly held in Europe and in many developing countries which they have influenced. The second view is more characteristic of the US health system and of countries where the public sector has a more residual role, for example charging fees for all except indigents.

Despite the differences these views imply in the objectives and strategies of health systems in different countries, international health policy generally takes it for granted that the common objective of health systems is to maximize health status, given the resources available (World Bank 1993a)⁴. In examining the efficiency of public provision of health care, this paper thus takes as its starting point three dimensions of efficiency. The first is cost-effectiveness: to select those interventions which improve health at least cost, or which maximise health gain for a given budget. The second is technical efficiency, where maximum possible output is obtained from a given quantity of inputs, or a given output is achieved with minimum inputs⁵. The third is operating efficiency, where the least cost combination of inputs is used to produce given outputs⁶.

³Efficiency is considered to have increased if more output is gained with the same resources, or a given output is produced with fewer resources. Only the latter situation results in cost savings. In both cases it is assumed that quality is held constant.

⁴This may be contrasted with the libertarian approach, which implies that objectives should be more concerned with satisfying individual preferences (eg permitting individuals to choose not to improve their health).

⁵i.e the facility is operating on the production possibility frontier.

⁶A fourth dimension of efficiency, that of achieving the desirable overall level of output of the health sector, is not considered here.

The question of the extent of inefficiency in the public health sector should ideally be addressed in terms of health outcome: to what extent does public sector health expenditure achieve the maximum potential improvement in health. While there have been a few interesting studies which suggest that some countries perform much better than others (Halstead, Walsh and Warren 1985; Cumper 1984), health status and expenditure data on developing countries are too poor to draw firm conclusions for particular countries. Hence most arguments on the inefficiency of the public sector rely on proxy indicators.

The first argument is that public health systems provide low coverage of those in greatest need, particularly the rural poor. This is assumed to be inefficient because it is argued that some of the most cost-effective measures (eg immunization, ante-natal and post-natal care, treatment of common infectious diseases) are those which improve the health of those with the worst health status, namely the poor.

The second argument is that service provision is biased to hospitals. For example, hospitals may absorb 50-60% of current government health sector, 60-80% of government health facility expenditure, and around 70% of district expenditure (Mills 1990). Within hospital expenditure, the lion's share is often absorbed by central and general hospitals, leaving district hospitals with the smallest share. However three qualifications must be made: it is difficult to set a norm for the share of health expenditure that should pass through hospitals; hospitals often provide substantial primary care to local, densely populated urban areas (and there is scanty but mixed evidence on whether this is more expensive than if this care were provided by community-based facilities); and much of the care provided by central and general hospitals is in fact what the World Bank defines as 'essential clinical care': ie many of these hospitals are misnamed.

The third argument is related to the first two, namely that the mix of interventions financed and provided by the public sector is highly inefficient. This argument is a particular feature of the 1993 World Development Report (World Bank 1993a), and draws on a large study of the cost-effectiveness of interventions against the major diseases in developing countries which has produced 'league tables' which rank interventions and programmes in terms of cost per DALY⁷ (Jamison et al 1993).

⁷'Disability adjusted life year' - a measure combining mortality and disability reductions resulting from interventions, and incorporating age weights, disability weights and discounting.

al 1993). The results of the ranking, when compared with the 'global burden of disease'⁸, indicate the extent to which it is possible to reduce the disease burden by devoting increased resources to the most cost-effective measures. For example, the World Development Report argues that implementing a basic public health package of interventions and a package of essential clinical services would eliminate 32% of the DALYs lost in low income countries, and 15% in middle-income countries (assuming 100% coverage). While there is considerable scope for challenging the details of the calculations, it is difficult to quarrel with the basic conclusion of misallocated resources: indeed this point has been made frequently in the past and was a prime reason for the primary health care emphasis of international health policy in the 1970s and 1980s.

The fourth argument is that publicly-provided services are highly inefficient (in terms both of technical and operating efficiency) in their use of inputs. Rigorous proof of this is difficult to supply since work has only recently begun on estimating production and cost functions for health facilities and as in developed country studies, it is difficult to account for quality and case-mix variations in the estimates (Barmum and Kutzin 1993). A recent study by Wouters, however, was able to assess both technical and economic efficiency in a sample of health facilities in Nigeria (Wouters 1993). She concluded that many public (and also private) facilities were not operating at full technical capacity, and that public facilities were not using cost-minimising combinations of health workers. Cost accounting studies commonly show wide variation in the unit costs of similar types of facility, providing evidence that strongly suggests inefficiency (eg Berman 1993; Bloom and Segall 1993; Gilson 1992; Koita et al 1989; Mills 1993; Purohit and Rai 1992).

Further evidence comes from input-specific studies. Two inputs cause particular concern: staff numbers and use, and drugs. Studies often show extremely low productivity of staff in the public sector (The World Bank 1993b; Berman 1993; Lewis, Sulvetta and La Forgia 1991), together with a gross lack of the complementary resources that would enable them to practise. For example, a study in Uganda indicated that health personnel could be reduced by 30% without affecting the quantity or quality of services (Republic of Uganda 1991). The work of the Drug Action Programme in WHO has documented the inefficiency of many public drug supply and distribution systems (Foster 1993). Waste occurs through buying unnecessarily costly drugs in inefficient ways; through distribution systems which favour hospitals, neglect peripheral services and lead to leakages;

⁸The number of DALYs lost as a result of all deaths and disability arising in 1990, classified by 109 disease categories, age, sex, and 8 geographical regions.

through poor prescribing of the wrong drugs, in wrong dosages and in excessive numbers; and in poor patient compliance.

Studies are beginning to show widespread problems, at least in the poorest countries, in the quality of care provided. For example, a study of dispensary care in a region in Tanzania showed that many facilities fell below the standard that might reasonably be expected in the circumstances of low-income countries, in terms both of structural quality (availability of necessary inputs) and process quality (standards of patient care such as history taking and drug prescribing) (Gilson 1992). Studies of hospital quality are more difficult to do: however, findings are likely to be similar (as a study in Papua New Guinea indicates - Thomason and Edwards 1991).

There is thus ample evidence of the inefficiency, in terms of all three types, of publicly-provided health services. Nonetheless, the evidence is by no means conclusive. In the first place, the evidence relies on what is still a relatively small number of country-specific studies, and the evidence of greatest inefficiency comes from the poorest countries in Africa, making it difficult to know to what extent the conclusions can be generalized. In the second place, there are also examples of 'highly efficient public health centres and district hospitals' (World Bank 1993a): the Bank quotes the examples of Chile, China, Sri Lanka and Zimbabwe. In the third place, conclusive evidence is lacking, at least in the poorest countries, that non-public services necessarily perform any better (Bennett, forthcoming). For example, the Tanzanian study referred to above found that mission facilities were not consistently better than government dispensaries, and for certain services (eg ante-natal care) tended to perform worse (Gilson 1992).

Before considering the scope for improving efficiency, it is important to explore the explanations for observed inefficiencies. In terms of non cost-effective allocation of resources, there are four main explanations commonly offered. First is the dominance of the medical profession in health decision-making in most countries, and the incentive structures and status concerns that favour hospital practice and medical specialisation. These priorities tend to be reflected in consumer preferences, though in addition poor, remote populations lack the political voice to bring their needs to the notice of the government. Second is the difficulty that all governments face in making policies on the basis of technical analysis: the policy-making process is often weak, and most ministries of health lack information on both costs and effectiveness. Thirdly, donor interventions have not in the past necessarily promoted a cost-effective mix of interventions. For example, a good part of the hospital infrastructure in the poorest countries has been financed by donors, with some

investments taking place even quite recently. Fourthly, it has been argued that public choice theory explains much of the misallocation: the more influential consumer and producer groups are able to divert resources to the costly overprovision of services that predominantly benefit upper-income groups and have a much lower social rate of return, at the expense of providing basic services to the poor (Birdsall and James 1993). However, in the poorer countries such overprovision is relative: even hospitals lack adequate revenue to function properly.

In terms of low technical and operating efficiency, many of the explanations lie in the nature of public bureaucracies and the lack of incentives they provide for efficient resource use. Decision-making is usually highly centralised, and planning and management structures weak. Government regulations impede action to improve efficiency (eg adjust staff numbers to local workloads), and the ministry of health, even if it wishes to, has very limited ability to introduce greater flexibility on its own authority. The health management cadre is dominated by medically-trained staff, who have little management training and are supported by relatively poorly educated administrators.

Other explanations lie in the pervasive influence of lack of resources. Where government salaries suffice for only part of the month, as in some of the poorest African countries, it is not surprising that staff are poorly motivated, public resources get diverted to private use and utilisation levels are low. Many of the government procedures which are considered to be inefficient and irrational, such as withholding budgets at the start of the year and issuing supplementary budgets through the year, can be shown to be highly rational given the financial uncertainties facing governments (Caiden and Wildavsky 1974). The poorest countries are also dependent on donor funds; and efficiency has suffered from donor preferences for highly visible, 'vertical' programmes⁹ which have done little to help build capacity (World Bank 1993b; Save the Children Fund 1993).

Some of the reasons for technical and operating inefficiency are well documented in the detailed studies of hospital costs in developing countries. Trisolini et al (1992) demonstrate for the main hospital in St Lucia that only 20% of costs were within the control of the hospital, and there was no control over staff costs. There were no responsibility centres within the hospital, and hence few means to either find out about or control resource use. Similar deficiencies are found in public hospitals in many other countries (Mills 1993; Lewis et al 1991; Barnum and Kutzin 1993).

⁹Vertical programmes are those which have their own management structure and funding, with services delivered separately and not integrated with other primary level activities.

3. Bureaucratic approaches and evidence of their success

There have been many programmes designed to tackle the weaknesses of publicly-provided health care. The problem is not to list them but to assess their success, since reforms are frequently described as if their mere existence is proof that they are effective. Many evaluations are done with a medical or epidemiological focus, to demonstrate improved health care or improved health status, but the impact of structural and procedural changes on efficiency or cost savings are not documented¹⁰. Monitoring tends to be limited to the time period of an externally-funded project and not to continue after the project has finished, so the sustainability of reforms is hard to assess. Four approaches to reform are considered here - structural changes, financing changes, improvements in the policy process, and management system improvements - with a focus on whether they have created, or are likely to create, improvements in efficiency and cost-savings.

Structural changes

A number of structural changes have been proposed to improve efficiency, the most common being decentralisation of planning and management, usually to the 'district' level (Mills et al 1990). Some measure of decentralisation is likely to be a pre-requisite for improved efficiency since it is the first step in informing local managers of the resource consequences of their actions, and in giving them some ability and incentive to improve their performance. However, despite fairly substantial experience of the implementation of decentralisation policies, it is still not clear precisely what actions and conditions are necessary for decentralisation to be a success (Mogedal forthcoming). Nor is it clear that structural change will necessarily result in changes in the way that organisations behave. Governments are often reluctant to hand over sufficient responsibility, particularly budgetary authority. Control over staff is also often retained at the national level. Decentralisation can blur lines of authority, for example when district managers have responsibility both to a local chief officer and to the national ministry of health. Furthermore, decentralisation requires investment in the strengthening of local management levels and improvement of information systems. Whether this, plus the transactions costs involved in maintaining the new management structures, are outweighed by efficiency gains is not a question that appears yet to have been addressed.

¹⁰In the two, recent reviews of developing country health policies (World Bank 1993a and 1993b), it is remarkable how many reforms are proposed, but how little detailed evidence can be put forward on the impact of past reforms in terms of quantitative measures of efficiency or equity. Similarly, the book by Barnum and Kutzin (1993) documents very fully low levels of hospital efficiency, but its suggestions on remedies lack any actual evidence of the success of reform strategies.

Other structural changes proposed include reorganization of ministries of health in order to separate management of the health service from the running of the ministry of health; giving a greater degree of autonomy to large public hospitals; and setting up management boards for health facilities and districts. There has been little reported experience of the success of these strategies. The second strategy is currently in fashion as a way of forcing some of the most inefficient parts of the health system, large tertiary hospitals, to improve their performance. It is reported that this change in Tunisia has led to some gains in efficiency (World Bank 1993a). Similar reforms in several African countries (for example Kenya, Uganda, Zambia and South Africa) are as yet at a rather early stage to be evaluated. Again, as with general decentralisation policies, there is no evidence on whether implementation costs would outweigh cost savings.

A much more radical way of enforcing cost savings is essentially to divest the public sector of the tertiary facilities, either by giving them independent status within the public sector and requiring them to raise their own income, or by shifting them into the private sector¹¹. Under this approach, if it is to lead to cost-savings, subsidised treatment would need to be denied to patients with low-priority conditions who would before have got free or subsidised care. A number of implications follow. First, the health system would become increasingly inequitable, since those with insurance or who could afford to pay the fees would still have access. It is also highly likely that those with political influence would continue to have access. Whether equity is improved in other ways would depend on the government's ability to shift at least some of the cost-savings to improve public health and essential clinical services in areas poorly-provided for. Secondly, tertiary hospitals are often the only hospital for large urban populations. Either patients have to be given access selectively (which would require establishing those procedures to which they are entitled, and corresponding subsidies, information systems, and monitoring), or new, lower level facilities would have to be constructed.

The scope for cost-savings from reducing public expenditure on tertiary care would seem to be considerable, given its relatively high share of total public expenditure¹². Even if it is assumed that as much as half of current tertiary expenditure is for care which is known to be cost-effective (eg

¹¹In Uruguay, for example, social insurance funding has been used to establish high technology institutes in the private sector (Marquez 1990). In Malaysia, the specialist MOH cardiology facility has been made autonomous and is required to raise its own revenue: those who are referred there and cannot pay must seek a government subsidy and join a waiting list for admission.

¹²The World Development Report states that 'Tertiary hospitals alone may consume 30-50% of the health budget' (World Bank 1993a).

outpatient care; standard acute surgery), the sums that might be saved are not negligible. Two cautionary notes should, however, be sounded. First, there is little evidence that governments are likely to be able substantially to shift the costs of access to tertiary care to users in countries where only a small proportion of the population is insured. Denying access is politically difficult (especially since these facilities are often in the capital city) and considerable subsidies are likely to remain. Second, if the management of such facilities is handed over to independent boards or to the private sector, they may pay higher salaries and/or take the facility up-market, raising the costs above their previous level. Hence the cost of care for publicly-subsidised patients may actually increase, though the quality may be better.

In a number of Latin American countries, cost savings have been sought by amalgamating the separate health services of the Ministry of Health and Social Security Funds, in order to reduce duplication¹³. Marquez (1990) comments that substantial savings and expansion of coverage have resulted. Such reforms reflect the emphasis placed until recently on rationalisation, integration and coordination. Such values are being challenged by pro-competition policies (see later).

Recommendations are increasingly being made for ministries of health to make greater use of non-government organisations (NGOs) to deliver services for low income groups, through subsidies. For example, mission health services have been advocated as models of quality of care and cost recovery for government facilities (Vogel 1987) and as providing the advantage of overseas income (World Bank 1993b). The advantages of the not-for-profit sector more generally have also been emphasised (Fiedler 1990). In efficiency terms, the value of expanded use of NGO providers depends on two conditions: that they provide services of a given quality at lower cost (net of user fees) than the government, and/or that they are able to subsidise that cost from local or overseas charitable income. Despite the above assertions, there is little hard evidence of consistently better cost performance by missions than government (Bennett 1991), though their fee collection performance is probably better. In a number of countries missions are finding it increasingly difficult to maintain their overseas income, and some are in serious financial difficulties. As they become more dependent on government subsidies, they may themselves become more like government bureaucracies; and if government facilities can be given greater ability to manage their own affairs through decentralisation, they may gain some of the advantages of flexibility that missions now have. However, lack of evidence on current behaviour makes it difficult to make firm predictions. Other parts of the NGO health sector have been little studied.

¹³In, for example, Brazil, Nicaragua and Panama.

Financing changes

While the desirability of user fees as a means of shaping consumer behaviour is much debated (Gilson 1987; McPake 1993), there is less controversy over the value of providing a facility with additional revenue. As long as the local level is permitted to retain all or most of the income and the cost of collecting the fee is not out of proportion to the income raised, fee revenue can enhance technical efficiency by financing complementary inputs such as drugs and maintenance, and providing a supplement to staff salaries (Marquez 1990; Barnum and Kutzin 1993). Improved quality should then reduce welfare losses from the imposition of fees, produce higher utilisation levels and thus make better use of existing capacity. For example, in a study of hospital fees in the Dominican Republic, user fee income was argued to be important in enhancing effectiveness, productivity and staff morale (Lewis 1993). The experience of the Bamako Initiative has demonstrated that by charging modest fees it is possible to support primary health services in a number of countries and improve their quality (McPake and Hanson 1993)¹⁴. Fees can also be used to encourage users to attend the local facility by exempting fees at higher levels for referred patients, or by fees graduated by level of facility (Abel-Smith and Creese 1989). There is little evidence of how well such 'bypass' fees work in practice and some evidence of problems: fees at the hospital level may not be high enough to discourage excessive use; or even, as in some Bamako Initiative countries, fees may be charged at the primary level but not further up the system.

Improvements in the policy process

The main current proposal for improving the process of policy-making is that made in the 1993 World Development Report, to make policy-makers aware of the burden of disease, the relative cost-effectiveness of means of reducing it and the need to define 'packages' of essential interventions which are publicly-financed. While the analysis was initially in global terms, country-specific studies are now being carried out, for example in Uganda, Mexico, Thailand and Kenya.

There are two main reasons for doubting that this strategy on its own (without structural changes) will have a major impact on efficiency. Firstly, cost-effectiveness analysis represents merely a means of improving the information available to policy-makers. It is likely to be only one factor that they will take into account in setting policies. While there is discussion on how to translate the results of the analysis into health care provision and provider behaviour, no firm recommendations

¹⁴The authors accept that the Initiative has not solved the problem of financial access for the poorest.

on how to do this have yet emerged¹⁵. Indeed, it is not nearly as simple as current analyses suggest. For example, for many clinical interventions cost-effectiveness may vary enormously depending on the characteristics of the patient: a procedure may be cost-effective for a healthy adult in middle age, but not for an elderly person with multiple pathologies. Secondly, data on the cost-effectiveness of different interventions are largely unavailable for any specific country. Heavy reliance will thus have to be placed on general international experience and studies from a wide variety of countries. Policy-makers may then doubt the relevance of the analysis to their own country circumstances.

Cost-effectiveness analysis will lead to improvements in efficiency if the public sector provides more interventions of high cost-effectiveness to more people and fewer interventions of low cost-effectiveness. Whether it leads to cost-savings will depend on where the cut-off point is located. It is conceivable that total expenditure could remain the same, but its make-up in terms of interventions changed. In some of the poorest countries, the World Bank accepts that providing access for 100% of the population to a minimum package of essential services would require an increase in expenditure (World Bank 1993a).

Management system improvements

Most of the measures to improve the efficiency of publicly-provided health care fall under the general heading of management system improvements. They include improving planning and budgeting systems at all levels; improving information systems including information on costs; improved financial management and accounting systems; improved management of inputs such as staff, essential drugs and other supplies, transport, and buildings and equipment; controls on the supply of expensive technology including highly trained staff; creation and expansion of management cadres for hospitals and health authorities; management training for all health professionals involved in management; and quality assurance programmes. This list is too long to deal with here: hence the discussion confines itself to those measures on which there is at least some evidence on whether they have led, or are likely to lead, to cost savings or improved efficiency.

There has been much emphasis over a number of years on improving planning procedures, including building up planning units in ministries of health and introducing programme budgeting; however, there is little evidence that they have had much influence on resource allocation except as managers

¹⁵Those strategies currently being suggested are improving the training of health workers, controlling the purchase of technology, designing reimbursement policies, and educating consumers.

of the development programme (Kalumba and Freund 1989; Issaka-Tinorgah and Waddington 1993). Their strategic planning function has largely been confined to writing plans, which have had little impact on actual decisions (Cumper 1991). There is often a considerable gap between stated policies, for example commitment to primary and preventive care, and actual resource allocation patterns (Gilson 1987; Bloom and Segall 1993). One of the few evaluations of planning reforms, in the ministry of health in Ghana, suggests that the reforms were far too ambitious, introducing too much change at once, placing too many demands on untrained staff, and assuming that forward planning was of value when in reality staff worked in a highly uncertain financial environment, where even approved budgets were not honoured (Issaka-Tinorgah and Waddington 1993). Reforms should rather have been more modest, acknowledging political and economic realities and recognizing the need for training.

Staffing inefficiencies can be approached in three ways: control of the numbers in training; change in the numbers and mix of staff employed; and improved control of staff including providing incentives for improved performance and increasing ability to fire excess or incompetent workers. Although many countries already, or soon will, have an oversupply of physicians (Abel-Smith 1986), there seems to have been little success in controlling numbers trained, at least in Latin America (Marquez 1990). Given the scope in the health sector for supply-induced demand, and the difficulty of changing expectations about public-sector employment, the problem of excess supply may well persist.

Excess supply encourages over-staffing of hospitals. For example, in a study in a hospital in the Dominican Republic (Lewis et al 1991), only 12% of contracted physician time could be accounted for by patient care activities, indicating serious underutilization of available manpower and misallocation of resources (79% of the hospital's budget was allocated to personnel). Hospital directors had virtually no control over staff assigned to the hospital. The solutions were seen to be greater autonomy for hospital managers and physician payment that was linked to productivity. The potential for altering physician employment and payment methods in the context of over-supply is suggested by the experience of PROSALUD in Bolivia. This externally-supported network of clinics with non-profit management is reported to have reduced staff costs substantially by employing fewer staff, increasing flexibility in job allocations, keeping wages down but offering a guaranteed salary, and paying a bonus linked to the clinic's revenue performance (Fiedler 1990; Gish 1991; Fiedler 1991).

The problem of over-supply of doctors contributes to an inappropriate staff mix, especially in countries where female labour force participation (and hence the number of nurses) is low. Many countries in Africa have shown that it is possible to provide services of adequate quality with paramedical staff; however, where doctors are in excess supply there is considerable opposition to such substitution. Again, increasing local management authority to hire and fire and give incentives for good performance seems to offer the greatest potential for improving efficiency (and would require the implementation of decentralisation policies).

In terms of other inputs, greatest emphasis has been placed on improving the efficiency of the supply and use of drugs. It is generally accepted that it is possible to reduce procurement costs by competitive tendering and adherence to an essential drug list (Ross-Degnan et al 1992), the World Bank (1993a) suggests by 40-60%. Given that pharmaceuticals account for 10-30% of recurrent public spending on health, this implies savings of around 5-15%. These are most difficult to achieve where doctors have the power to oppose generic prescribing and essential drugs lists and where there is a powerful local pharmaceutical industry (Marquez 1990). Distribution systems seem harder to reform and the means of efficiency improvements are more controversial: a review of the distribution and use of pharmaceuticals in developing countries concluded that 'the public sector can be made to work' (Foster 1993). Others, however, disagree, arguing that none of the strategies to improve public sector distribution systems have been particularly successful (Vogel and Stephens 1989). Even advocates of government-run essential drugs systems accept that little evidence is available of success in improving public sector prescribing practices (Ross-Degnan et al 1992)¹⁶.

In summary, there is little doubt that there is considerable potential for health services, especially hospitals, to improve technical and operational efficiency. In hospitals, the following examples indicate that the management reforms necessary to increase efficiency are often fairly obvious and do not require sophisticated approaches. In Malawi, a hospital cost analysis indicated that in all 6 hospitals studied, there was a high degree of awareness amongst district health officers of the need for control of resource use, and some successes in ensuring resources were used effectively (Mills 1993). However, reforms seemed to depend on the interest and energy of the senior staff, especially the district health officer who had many responsibilities and who rarely stayed for more than two or three years. One of the greatest needs was therefore to establish a cadre of hospital managers with sufficient authority to control resource use. Similar conclusions have been reached in Papua

¹⁶though private prescribing is as bad or worse, and likely to be more difficult to reform because of the financial interest which private prescribers have in prescribing the more expensive drugs.

New Guinea (Thomason and Edwards 1991). In other countries low utilisation may be a major source of inefficiency, and requires greater attention be paid to improving aspects of performance that users value. For example, the introduction of payment to finance an essential drugs supply, and tight management and financial control, can be sufficient to have a substantial effect on utilisation without major additional external resources (Unger, Mbaye and Diao 1990). In Indonesia, it has been argued that adding a specialist and surgical services to lower-level hospitals would greatly boost use (Barnum and Kutzin 1993).

What is not understood, however, are the influences leading ministries to introduce sustained reform, and the means to inculcate a managerial culture and capacity that gives priority to improved resource use.

Relative attractiveness of different approaches to reform

Given an aim of raising the resources available to the health sector, the question can be asked whether improvements in efficiency and user fees are complements or substitutes. Reforms which increase technical and allocative efficiency make existing resources go further, and mean that more interventions and services can be provided within a given budget. These reforms are desirable regardless of the policy on user fees. Indeed, it is preferable to improve technical and operating efficiency before requiring users to pay, so they do not subsidise inefficient services. User fees, as discussed above, may enhance technical efficiency by ensuring adequate funding of inputs. Their effect on allocative efficiency is more complex, and depends both on the structure of the fee system and on the response of users. If the fee system is structured in a way that provides incentives to use cost-effective care (for example if it exempts or highly subsidises services with quasi-public good characteristics or externalities; or if it encourages use of the lowest appropriate level of care), then user fees can complement supply-side reforms. However, even very low fees may deter needy users unless an effective exemptions system is in place. There is very little evidence on whether public health services can operate such systems well.

An issue which has barely begun to be addressed is the possible trade-off between cost reduction and quality, and whether different approaches to reform have different implications for this trade-off. Quality in health care is peculiarly difficult to assess, given the ill-defined nature of the production function. It is difficult to specify what health care procedures constitute care of adequate quality, let alone monitor whether they are carried out and have a positive impact on health. The few studies that have so far been done tend to indicate a lack of correlation between unit cost and quality

at health centre level: ie low cost centres are as likely to deliver care of adequate quality as high cost centres (Gilson 1992). Thus there is likely to be considerable scope in practice for improving technical efficiency without harming (or even in the process enhancing) quality. However, there is a danger that reforms introduced in order to provide incentives for increased productivity such as performance-based pay, and to increase the resources available to facilities such as user fees, may threaten quality. For example, quality may be reduced if strict cost control accompanies incentives to increase throughput; and if user fee policy generates strong incentives to over-supply certain drugs or technologies in order to increase hospital income (as is the case in China - Bumgarner 1992).

This review has highlighted not only the lack of evidence on the impact of reforms, but also the lack of attention paid to the factors that determine whether a particular reform is implemented successfully, and which means of implementation are most likely to enhance the chances of success. In particular, it is important to consider how all those who will affect the success of reform, such as politicians, managers, health professionals, and communities, can be encouraged to develop and support reforms, and carry them through. It seems that many of the approaches to improving management processes may do little to change the incentives facing managers and health workers, and hence are unlikely to have a dramatic impact on efficiency. This concern is leading some to advocate much more radical structural changes, particularly a greater reliance on market mechanisms and the private sector.

4. Market approaches

Market approaches are taken here to be reforms that aim to introduce competitive pressures into public health services. The starting point for the discussion is some of the European health reforms that aim to introduce competition. Those reforms of most potential relevance to developing countries are those relating to provider (or quasi, or internal) markets¹⁷. These can be considered to take two main forms (Brazier, Hutton and Jeavons 1990). Provider markets involve the separation of responsibility for financing care from the responsibility for providing it. A statutory purchasing authority provides care by a combination of contracting with other agencies (public only or private as well) and direct provision. In the variant of provider markets with consumer choice, emphasis is placed on the consumer selecting either the purchasing agency (who contracts with

¹⁷The terminology is confusing. See Broomberg (1994) for an explanation of the various terms and how they differ.

providers to supply the required health care) or the provider (who is rewarded for a higher workload by increased funding from a passive purchaser).

Proponents of provider markets argue that they will generate both substantial increases in efficiency and increased consumer choice and influence over health services. The means by which these beneficial outcomes are considered to occur are twofold (Broomberg 1994). Firstly, it is argued that provider markets will give rise to competition amongst providers for contracts, and that competition will enhance efficiency on the supply side. The concern that there will be too few providers in many geographical areas to ensure competition is countered by the argument that markets need only be contestable for incentives for efficiency to be created (Baumol, Panzer and Willig 1988). Secondly, the replacement of direct management by contractual relationships between purchasers and providers is argued to promote increased transparency of prices, quantities and quality in trading, as well as managerial decentralisation, both of which will also enhance efficiency. Proponents of market reforms recognize that they come at a cost, in the form of transactions costs, but consider that the gains in efficiency will outweigh the costs involved in setting up and maintaining markets.

So far it appears that the jury is still out on whether the gains that can be argued in theory to arise are in fact realised in practice (Le Grand and Bartlett 1993; Roberts 1993; Robinson and Le Grand 1994). The theoretical and empirical arguments in the developed country context will not be debated here; rather the concern is to explore whether there are some aspects of the reforms that are relevant in a developing country context, or whether there are particular features that render them irrelevant or harmful. It should be noted that the essential feature of the reforms is competition: reforms such as giving self-managing status to large hospitals are not regarded here as market-oriented reforms unless there is competition for funding and/or patients.

To achieve the ideal outcome of a quasi-market, namely efficiency, provision of choice and responsiveness to consumers, it is argued that there must be competition on both the purchaser and provider side (Bartlett and Le Grand 1993), though there is some debate as to whether competition on the purchaser side is as important as competition on the provider side. This paper first considers briefly the feasibility of the consumer choice model, involving competition on the purchasing side, before turning to the supply side and providers.

Competition on the purchasing side

Consumer-led competition can be encouraged in two ways: by consumers being free to select one of a number of competing purchasers, such as insurance agencies or health maintenance organisations, who will act on their behalf, or to select their provider directly¹⁸. The former option will entail particular difficulties in virtually all developing countries. A universal feature is a large proportion of the population who are not within the formal employment sector, and whose cash incomes are very low. Giving them choice of purchaser would require large state subsidies and entail problems of identifying who required subsidies¹⁹. A further feature of developing countries is a lack of large financial institutions which could act as competing purchasers. Moreover, there would be major problems in preventing them discriminating in favour of low risk groups, thus encouraging adverse selection²⁰. Competition amongst purchasers may be an option in some of the urban areas of the richer countries, for those in formal employment, and might help to overcome some of the entrenched inefficiencies of social insurance systems²¹. But it seems unlikely to be a solution to meet the health care needs of the majority of the consumers of public health services.

Encouraging providers (either public only or public and private) to compete for consumers requires a system for rewarding providers who attract more custom, and hence for paying them for providing care to identifiable consumers. It generally requires public providers to charge cost-covering fees. It is not infrequently argued by pro-competition economists that at present there is unfair competition in developing countries, which hampers the development of the private medical sector, because public services are provided free (or highly subsidised). Hence charging fees in the public sector is argued to be necessary to promote competition.

However, the problem of enabling consumers to pay cost-covering fees is unresolved. Two solutions are commonly put forward: insurance and exemptions. Insurance is only just now reaching

¹⁸A common feature of most developing countries is that consumers already have considerable choice because of the extent of private provision (ranging from traditional practitioners, through drug stores, to modern medical practitioners). However, the ability to exercise choice is for most people severely limited by income. The concern here is the ability of those whose financial access to health care is facilitated by the state, to exercise choice as to where they can obtain care.

¹⁹A feasibility study of a local health maintenance organisation in a rural parish in Jamaica showed the scheme was not financially viable, partly because the contribution the Ministry of Health was prepared to pay for indigents was well below the level of voluntary insurance premia and inadequate to cover the likely cost of services (Abel-Smith 1989).

²⁰Adverse selection can occur when insurers avoid giving cover to higher-risk patient groups. In this case it arises when insurers are not adequately compensated for the higher costs of care for these groups (and thus have an incentive not to enrol them).

²¹For example, there is considerable interest in parts of Latin America in competing HMOs (Tollman, Schopper and Torres 1990).

a high proportion of the population in the richer developing countries; for most it covers only a small proportion of public sector clients most of whom are not in formal employment. The requirements for paying premiums and identifying the insured are hard for low income countries to satisfy for most of the current users of public health services.

Exemptions schemes encounter three main problems. Firstly, although they are frequently seen as the solution to the equity problems of user fees, there is very little evidence of the extent to which they are effective in protecting the poor (and making the richer groups pay). There is cause for concern that exemptions may be poorly targeted (for example civil servants often make up a large proportion of the exempt), that they may be stigmatizing and hence under-claimed, and that objective measures of poverty are unavailable, providing scope for more subjective factors to influence decisions. Secondly, in most poor countries the great majority of public facility users would be exempted according to any reasonable definition of poverty²²: hence there are serious questions as to whether the administrative cost of such fees would be worth the revenue raised. Thirdly, there would need to be a system whereby the purchaser covered the costs of care of those who are exempt or partially exempt. In this context, the possibility of health care vouchers is often mentioned, whereby the provider would collect the vouchers from patients and then claim reimbursement from the purchaser. However if these are not available to everyone (which seems likely), they also entail the problems of targeting the needy as well as controlling their issue and use. For example, vouchers are issued in Taiwan for the insured to take to obtain medical treatment, and are then used by the facilities to claim payment. There is a major problem that the facilities collude with the insured to claim unnecessary treatment²³.

A final concern with the model where consumers choose providers directly is people's ability to behave as informed consumers. In developing countries large proportions of the population are uneducated or poorly educated, have limited access to sources of information such as the mass media and newspapers, and are distant from providers in terms of socio-economic status and educational level. If the UK prefers purchasers to act as informed consumers on behalf of individuals, then there is even more of a case to be made for this in developing countries.

²²In Jamaica, for example, by no means one of the poorest countries, it was estimated that the poor who would have to be exempted from fees amounted to 50% of the population, and the near-poor, who would have to be subsidised, to a further 30% (Abel-Smith and Creese 1989).

²³ Cheng-Lan Su, personal communication.

Whether the purchaser role can, or should, involve competition between purchasers is debatable. Given the paucity of institutions that could act as competing purchasers in many developing countries and the dangers of adverse selection, it may be that the most desirable and feasible option is to have monopoly purchasers, with the responsibility of assessing the needs of their local population and then contracting with public or private sector facilities, either selectively (for particular services) or for the whole range of required services.

Provider competition

A wide diversity of market approaches can be envisaged:

- a comprehensive provider market, incorporating both public and private facilities, organisationally quite separate from purchasers;
- in underserved, low income rural areas, giving existing or new private providers the opportunity to bid to build and provide primary and secondary level services for the general public;
- in urban areas with an established private sector, agreeing contracts for a variety of different types of care: primary care, whole hospitals, particular types of patient care, particular diagnostic procedures;
- offering public facilities to private sector entities to run on a long term lease, involving temporary transfer of ownership;
- offering management contracts to the private sector to run public facilities (without temporary transfer of ownership);
- encouraging contracting out of non-clinical services in public hospitals;
- contracting for delivery of disease control activities (eg residual spraying, immunization).

A limited amount of contracting exists already in developing countries. The most common arrangement is of contracting for non-clinical services. For example, there is some contracting-out of laundry services in India, Sri Lanka, Indonesia, Bangladesh, Pakistan, Malaysia, Mexico, Thailand and Zimbabwe; security services in Malaysia and Sri Lanka; laboratory services in Nigeria; maintenance of large equipment in Venezuela and Zimbabwe; and billing insurance agencies in Zimbabwe (Bennett and Mills 1991; McPake and Ngalande-Banda 1994; Ellis and Chawla 1993; World Bank 1993a and 1993b). However, information on these arrangements appears to be anecdotal, and there has been little careful evaluation of their success²⁴. It is reported that a large

²⁴Research is currently underway, supported by the Health Economics and Financing Programme and ODA, to evaluate contracting arrangements in Thailand, Papua New Guinea, Mexico and South Africa.

public hospital in Tunisia has fully contracted-out all food, cleaning and security functions, and now obtains services of much higher quality, at similar or even lower unit cost (World Bank 1993a); that contracting-out all cleaning and portering services in the three public hospitals in Kingston, Jamaica saved half the budget and improved the standard of services (Abel-Smith 1989); and that because only two companies were available to bid for a catering contract in Lesotho, the supplier was able to charge more than competitive rates (Bennett 1991). In all these cases, however, very limited details are available.

Contracting of clinical services is generally considered to be less common (McPake and Ngalande-Banda 1994). However, this partly depends on what is defined as contracting. Many African countries provide a substantial subsidy to mission health services which are major suppliers of services to the general population (for example in Rwanda, Zimbabwe, Malawi, Swaziland, Ghana, Tanzania). While in the past the mission services simply provided their accustomed facilities, increasingly they are taking on additional responsibilities in return for the subsidy, for example to act as district-designated hospitals and supervise lower level facilities in the district, and to help implement nation-wide programmes such as those for immunization or TB treatment. Similarly hospitals run by industrial or agricultural enterprises may provide treatment for the local population in return for a subsidy - for example mine hospitals (McPake and Hongoro 1993). These are however incipient forms of contracting: there is usually no obvious competition in the awarding of the contract, and governments are only slowly becoming aware of the possibility of specifying the services to be delivered in return for the subsidy, and monitoring performance.

South Africa provides an unusual example of quite extensive contracting for hospital care (Broomberg 1994). In 1989, 15.5% of total hospital beds, and 53% of privately owned beds, were under some form of contracting arrangement. One for-profit company runs 23 hospitals, the majority providing long-stay care but 3 in rural areas functioning as local district hospitals providing a normal range of acute inpatient care as well as outpatient services. Other contracting arrangements are more similar to those in other parts of Africa: NGO hospitals receiving a global budget to cover the care of non-private patients.

Other examples of contracting are available from the social insurance sector. Most of these are again not good examples of contracting, in the sense that competition is not an explicit (and often not even an implicit) aim, and payment systems provide no incentive to cost control. For example in Brazil the federal government has contracted, through the social security programme, for more

than 80% of all private hospital beds (Rodrigues 1989). The history of the arrangement demonstrates the cost control problems created by fee-for-service payments, and the difficulties of changing behaviour through a new case-based prospective payment mechanism.

The one arrangement that appears to have competition as a prime objective is the new social insurance system in Thailand. The social security office contracts with hospitals (public or private) to provide comprehensive care in return for an annual capitation fee. The hospital is chosen annually by the employer²⁵, and must make adequate arrangements for specialist and out-patient care (often contracting itself with primary and specialist facilities to ensure this).

5. Conditions in developing countries likely to affect the success of market mechanisms

Given the lack of experience in developing countries with contracting, the discussion of its relevance to developing countries must inevitably be speculative. Concerns surround three main areas: the market structure; issues surrounding managing contracts; and wider effects on the whole health system.

Market structure

An obvious problem in developing countries is that they are often characterised by lack of health facilities, and difficulties of physical access further limit services available within a specific geographical area. Thus in many rural areas there is an obvious lack of competition for particular types of medical care and contracting for clinical care seems to make little sense. However, points can be made against this view. Firstly, in rural areas where only one facility is adequate to service the local population, the contracting arrangement could involve a management contract for an existing publicly-owned facility, or leasing the building. Where a facility does not exist, the contract could involve the private sector building and then operating the facility²⁶. The question then is whether private companies exist (or might exist) that would be interested in such contracts. In countries like South Africa where there is already substantial private sector experience in running hospitals and where private hospitals, having grown very rapidly, are facing financial difficulties

²⁵In the first year of the scheme, health care utilisation rates were very low, it is believed because the hospitals chosen by employers were not accessible for employees. There are plans to move towards employees selecting their preferred provider.

²⁶This was the arrangement in two of the three contracts for local acute hospital care in South Africa; in the third the government had already built the hospital, but decided to contract a private company to run it.

(Price 1994), or Thailand where the private sector is heading towards an over-supply of hospital beds in Bangkok, the public sector market has certain attractions. In other countries at an earlier stage of the private hospital boom, it may be that opportunities in the private sector are as yet too profitable for the private sector to be interested in government contracts.

Secondly, in large urban areas, there may already be sufficient facilities to provide competition, or at least to ensure contestability. For example, private services whether hospitals, nursing homes, or diagnostic facilities have been growing fast in many capital cities, particularly with the perceived decline in public sector services. Against the contestability argument are constraints on market entry, particularly those relating to government regulations (though regulations are being eased in a number of countries - Bennett and Mills 1991), the ease with which capital can be raised, and the acknowledged problems in all countries of the significant sunk costs and asset specificity associated with health care provision (Roberts 1993). An established large hospital may be able to deter competitors from entering the market and make supra-normal profits unless demand is growing very fast.

Such problems, however, are likely to be less significant for primary care than for hospitals. Private providers abound in the urban areas of many cities, and require little to practise except a building and minor equipment. It seems surprising, therefore, that there has been virtually no consideration of primary care contracting. The reason may be that there is assumed to be a stronger case for direct public provision of primary care than for hospitals because of arguments relating to externalities. However, public urban health centres are often in short supply, underused if quality is poor, and less popular than private clinics (Yesudian 1993; Pannarunothai 1993): hence there is likely to be considerable scope for competitive contracting for primary care facilities in many cities.

A major concern in developing countries is likely to be the quality of the private sector. Will firms and medical practitioners look for an opportunity to make a quick profit, or are there reputable firms who have a long term interest in the sector? It should be emphasised that it is by no means clear that the existing private sector is necessarily efficient (Wouters 1993; Bennett 1991), whatever the claims made on its behalf (World Bank 1993b). Hence the process of managing any contract is likely to be vital. Partly because of concern over quality and motivation in the private for-profit sector, NGOs (especially missions) are frequently mentioned in terms of their potential for supplying services on behalf of the public sector. Whether they are likely to be interested in competitive tendering still has to be established, and it is possible that their motivations may not be sufficiently

financial to provide the incentive to efficiency that contracting seeks to provide.

On the purchaser side, there are also a number of concerns. Prime amongst them must be the competence of the public sector to act as an efficient purchaser. The managerial problems that result in inefficient publicly-provided health services are also likely to result in poor regulatory performance, and in the possibility of regulatory capture (Bennett et al 1994) or at worst corruption. It follows that there are also concerns as to whether the purchaser's aim will be to maximize the welfare of users. These concerns are greater when it is taken into account that the purchaser may not be the national ministry of health but a regional or provincial authority. A weak purchaser may permit providers to behave more opportunistically than they otherwise would.

Another factor that may undermine the ability of the health authority to act as an efficient purchaser is the pervasive uncertainty about resources which is characteristic of many developing countries. This may have a number of consequences which affect the market, and particularly may make all concerned highly risk-averse. Health authorities may be unwilling to enter into long-term contracts, while providers may be unwilling to agree a short-term contract. Health authorities may be unwilling to pay an adequate price and thus there may be no takers for the contract.

Managing contracts

There must be severe questions over the ability of many governments to negotiate and manage contracts. Governments are generally inexperienced in contract design and management. There are even concerns in several countries about the ability of the government tender board to manage contracts for non-clinical services. There is a danger that poorly designed contracts will distribute all or most of the risk to the purchaser, and reduce the incentive for efficient provision. For example, the two existing South African contracts that involve the purchaser building and then running an acute hospital appear to be highly advantageous to the provider since they guarantee payment for a minimum occupancy level and the contract period is long (Broomberg 1994).

Information systems are usually very weak, on both cost and quality. While it is assumed here that contracting is likely to be selective, purchasers still need to know enough about their own cost structures to judge whether a service is worth putting out to contract, and whether the contract price is reasonable. This was a problem, for example, with contracting for non-clinical services in Lesotho (Bennett 1991). Thus the contractor may be better informed than the purchaser about the risks involved, permitting the former to profit at the expense of the latter. However, it is also

possible that potential contractors have equally poor information systems, and are ill-equipped to take on the contracts²⁷. Weak information systems imply that the transactions costs of establishing and monitoring contracts may be relatively high.

A final problem in specifying and managing contracts may be user fees. For example, in the case of a contract with a mine hospital in Zimbabwe, a government clerk was placed in the hospital with the responsibility of certifying who was eligible to be given free care; in practice, however, everyone received free care (McPake and Hongoro 1993). In the re-negotiation of the contract, the government wishes the hospital to ensure payment by those who should pay (particularly those who belong to medical aid schemes and higher income groups). The hospital, not surprisingly, is unwilling to be faced with the task of collecting payment and risk of bad debts. In all three of the contracted district hospitals in South Africa, a government cashier sits in the hospital and collects fees. Governments may not find it possible to shift the risks associated with collecting fees to the contractor.

Wider effects on the health system

In assessing whether the benefits of contracting are likely to outweigh the costs, account must be taken of the effects on the health system as a whole. There are a number of concerns.

Firstly, where a reasonably elastic supply of human and physical resources to the health system does not exist, there is a strong danger that prices and salaries will increase, and the contracted service will benefit at the expense of public providers. In a number of countries, the public sector already faces severe competition from the private sector for trained staff. However, to the extent that many countries have an excess supply of professionals (particularly doctors) the problems are lessened though they may still be manifest in high staff turnover.

Secondly, contracting may lock the government into contracts that have to be paid regardless of their financial circumstances. This is likely to be a major problem in the poorest countries, which can afford to fund few services at a reasonable level. Thus an area with a contract may be protected at the expense of other areas with publicly-provided services. However, it can also be a problem in richer countries. For example, in the case of the mine hospital referred to earlier, the district

²⁷For example, a well-known international firm of management accountants took on a contract to help improve the management and financial control of a large teaching hospital in Africa. Despite their general expertise, they were ill-prepared for the particular complexities of sophisticated hospitals: particularly the power that specialists had over resource allocation. If well-known firms can misjudge the difficulties, so may smaller, local firms (personal communication).

population benefited from a much higher level of expenditure than that available for other districts in the same province (McPake and Hongoro 1993). Equity problems may also arise given the likely problems in terminating a contract: the government may not be an effective negotiator when faced with the threat of a contractor pulling out; hence there may be a tendency over time for contracted services to benefit at the expense of public provision.

Finally, where contracting for hospital care is introduced in urban areas where facilities are plentiful, as in the case of the social insurance system in Thailand, there is a danger that competition may distort the behaviour of public hospitals, encouraging them to concentrate on services where they are in competition with the private sector rather than on those that provide greatest health benefit to the local population (Saltman and Otter 1992).

6. Design of contracting systems

It may seem from the above catalogue of problems that market mechanisms to encourage efficiency in the public sector are of no value. However, there are likely to be some forms of contracting which may be useful in some circumstances. This section is a preliminary attempt to identify the forms and circumstances.

In terms of the approach to provider markets, it seems highly unlikely that any developing country would be in a position to implement a nation-wide system such as that in the UK. Of relevance are likely to be contracts with private sector firms to run public facilities, selective contracting in urban areas for specific clinical services and for primary care, and contracting of non-clinical services in hospitals and for specific public health measures such as environmental health services.

Management contracts, to work well, should give the contractor control over all resources used in the hospital, including staff. Contracts which leave staff employment in the hands of the government are unlikely to be effective in improving efficiency where a major source of inefficiency is staff numbers and working practices²⁸. The source of competitive pressure would have to be the threat that the contract would not be renewed. This threat may be more plausible if the hospital building is government-owned (despite the danger that the operator may run down the capital stock). The problem of shortage of government funds for construction may be overcome if donors are willing to provide capital for district hospitals.

²⁸This problem is seen in some of the South African contracts where the contractor employs only the administrative staff.

It would be desirable for the contract to involve not only the provision of hospital services, but also the running of and support to district primary care services. Otherwise the hospital, especially if paid on a per day basis, may have a financial interest in getting patients into the hospital rather than keeping them out of it. Moreover, integration would enable hospital-based expertise to be shared with the community services and avoid the inefficiency inherent in a situation where community services have to be supported from a separate centre.

Selective contracting in urban areas may provide the opportunity for private hospitals with excess capacity to offer their services to the public sector at discounted prices. However, it is important that there be actual competition or the threat of competition, and that the choice of services should be governed by consideration of cost-effectiveness. In many rapidly developing countries there is at present a boom in medical technology, and probably excess capacity in diagnostic equipment in the private sector (Nittaramphong and Tangcharoensathien 1994). Contracting should not be the means of giving public sector patients excessive access. Contracting for non-clinical and primary-care services are likely to be the easiest to implement, at least in those countries with a reasonably-sized private sector.

The most difficult questions are likely to arise over the design of contracts. The contract must provide for a reasonable distribution of the risk between purchaser and provider. Poor information systems are likely to make case-based payment systems difficult to implement in many countries, and providers (except possibly NGOs) may be unwilling to accept block contracts²⁹. Fee-for-service systems are generally accepted to have undesirable effects (World Bank 1993a). The different objectives of purchaser and provider may best be accommodated by some form of cost and volume contract, or the less undesirable form of fee-for-service where there is a standard charge per day.

Monitoring of quality, especially where there is doubt over the ethical behaviour of the private sector, is likely to be vital. It is clear that existing contractual arrangements for clinical services involve virtually no monitoring of quality. McPake and Hongoro (1993) argue that where the contract provides an incentive to minimize services per day (as for example in a fee-per-day payment), any tendency to reduce quality can be monitored through checking whether necessary physical inputs are provided. However there are other aspects of the performance of the contract that this approach to monitoring would miss. For example, adverse selection may be a problem

²⁹These provide a lump sum payment in return for which the provider treats all patients who turn up.

when the contract cannot easily be designed to ensure that providers have no incentive to avoid particularly high cost patients, and moral hazard when providers can take advantage of the agreement reached to put fewer resources into the contract. Given the poor information systems in developing countries, the best approach may be the careful selection of contractors, building up a long-term relationship with providers, and monitoring the physical resources provided.

7. Conclusion

Positions are already beginning to be taken on the value of market approaches to improving the efficiency of the public health sector in developing countries. The World Bank, for example, argues that "for some services provided by the public sector, the system of provision is so grossly inefficient that it is unlikely to be cost-effective no matter what interventions the system tries to provide. Such inefficiencies have been criticized so clearly and for so long that it is evident that they will only be overcome by radical changes in the organization of health care - such as a shift in the government's role from providing care to financing care and stimulating competition among providers" (World Bank 1993a). The Chief Health Advisor of the British Overseas Development Administration is quoted as saying that 'dividing investors from providers creates friction, but in the long term leads to more effective use of resources' (Dean 1994).

However such policy prescriptions are being advanced in the almost total lack of knowledge on whether these solutions are likely to be any better than the systems they are intended to replace. Moreover, it is not clear that it will be any easier to develop government capacity to negotiate and monitor contracts and regulate the private sector, than to improve the efficiency of public providers. There is also a potential contradiction between the emphases of the World Development Report 1993 on funding only interventions that are cost-effective and making greater use of the private sector, since the latter's actions are likely to be less easy to influence.

Despite the remarkable lack of evaluation of the impact on efficiency of reforms to public provision, there are sufficient examples to indicate that is possible to make improvements. The evidence suggests that technical efficiency is best promoted by a combination of decentralisation and strengthening of local management capacity which provides both the incentive to improve efficiency and the means of so-doing. Such action would also help to improve operating efficiency, but more substantial improvements may require national-level policies to change, for example professionally-

set staffing norms. Means to improve allocative efficiency are less clear, not least because it requires a greater degree of political direction and clear decisions on what the public sector can and cannot provide.

Both bureaucratic and market reforms would appear to demand decentralisation. An important question for further investigation is the extent to which this will on its own enhance efficiency, by changing the incentives faced by managers and health workers, without needing the introduction of the administrative and organisational complexities required to create and maintain competition. Furthermore, since countries differ greatly in the potential for reforming the public sector and in the extent of private sector activity, further investigation needs to define more clearly the country and market characteristics that can guide decisions on which approach is the most desirable and for which services. Finally, greater effort needs to go into monitoring the consequences of reform for efficiency (and equity), and in comparing efficiency gains with the costs of bringing them about.

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